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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/715,634	11/17/2000	Cheng-Hung Hung	98088CON	7799

7590

07/11/2003

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EXAMINER

AHMED, SHEEBA

ART UNIT

PAPER NUMBER

1773

10

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/715,634	Applicant(s) HUNG ET AL.	
	Examiner Sheeba Ahmed	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/16/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 34 and 36-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 34 and 36-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims 1-33, 35, and 53-55 have been cancelled in the above-identified application. Claim 34 has been amended. No new claims have been added. **Claims 34 and 36-52 are now pending.**

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 34 and 36-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Marsh et al. (US 4,713,233).

Marsh et al. disclose metal oxide powders (Column 2, lines 47-48) having a high pore volume, large surface area, and small particle size wherein the metal oxide includes metal oxide powders of cerium (Column 3, lines 43-60). The metal oxide powders produced by Marsh et al. are loosely agglomerated primary particles and/or aggregates of primary particles (*indicating that all metal oxide particles produced are in the form of agglomerates or aggregates*) having a spherical form at the aggregate and primary particle level (*thus meeting the limitation that the aggregates comprise spherical primary particles of cerium oxide wherein the aggregates are cenospherical and that 98% or more of the aggregates are cenospherical, as*

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recited in claims 36-38, given that cenospherical aggregates are defined as aggregates having at least one hole that is visible via electron microscopy in lines 9-14 of Page 6 of the instant application). The term agglomerate is defined as a collection of at least two or more primary particles held together by weak cohesive forces. The agglomerates are generally between 1 and 10 microns in effective spherical diameter ***(thus meeting the limitations that the cenospherical aggregates have an average diameter (by weight) of 1-20 microns as recited in claims 44 and 45)*** and the primary particles, defined as a single crystal, are usually less than 1 micron in diameter ***(thus meeting the limitation that the primary particles have an average diameter (by number) of about 30nm or less, as recited in claims 39-41, and that the primary particles have a crystallite size of 1-30nm, as recited in claims 51 and 52)*** and usually range from 0.05 to 0.7 microns in diameter (Column 6, lines 44-65).

With regards to the limitation that the rest of the aggregates are aciniform aggregates ***(as recited in now amended claim 34)*** having an average diameter (by number) of 500nm or less ***(as recited in claims 46-48)***, the Examiner takes the position that some of the agglomerates or aggregates disclosed by Marsh et al. meet the limitations of aciniform aggregates given that lines 9-14 of Page 6 of the instant application defines aciniform aggregates as chain-like aggregates. For example, Marsh et al. state that their agglomerates are defined as a collection of at least two or more primary particles held together by weak cohesive forces hence when the agglomerate comprises only two primary particles, it meets the limitation of an aciniform aggregate having a particle diameter of less than 500nm, as defined by the instant invention. Furthermore, with

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regards to the limitations that the aggregates have a density of 6 g/cm^3 or more, a density between $6\text{-}7 \text{ g/cm}^3$, or that the aggregates have a surface area of $50 \text{ m}^2/\text{g}$ or more (*as recited in claims 42, 43, 49, and 50*), the Examiner takes the position that such material property limitations are met by the cerium oxides particulate composition disclosed by Marsh et al. given that the chemical composition and the structure of the cerium oxide particulate composition disclosed by Marsh et al. and that of the claimed invention are identical. All limitations of claims 34 and 36-52 are either disclosed or inherent in the above reference.

Response to Arguments

3. Applicant's arguments filed on April 16, 2003 (Paper No. 9) have been fully considered but they are not persuasive. Applicants traverse the rejection of claims 34 and 36-52 under 35 U.S.C. 102(b) as being anticipated by Marsh et al. (US 4,713,233) and assert that Marsh fails to disclose or suggest a cerium oxide particle composition comprising a mixture of cenosphereical and aciniform aggregates and that the portion of Marsh cited in the previous Office Action refers to agglomerates and not aggregates as required by the claimed invention. However, the Examiner disagrees with Applicants such assertion and would like to point out that the Marsh specifically discloses *agglomerates and aggregates* that have an effective spherical diameter of 1 to 5 microns and the primary particles, defined as a single crystal, are usually less than 1 micron in diameter. Furthermore, the Examiner has taken the position that the *agglomerates or aggregates* disclosed by Marsh et al. meet the limitations of aciniform

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aggregates given that lines 9-14 of Page 6 of the instant application defines aciniform aggregates as chain-like aggregates and when the *agglomerates or aggregates* comprises only two primary particles, it meets the limitation of an aciniform aggregate having a particle diameter of less than 500nm, as defined by the instant invention.

Hence, the above rejection is maintained.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

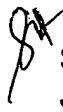
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (703)305-


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0594. The examiner can normally be reached on Mondays and Thursdays from 8am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703)308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-5408 for regular communications and (703)305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5665.

 Sheeba Ahmed
July 9, 2003


Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700